

Amendments To The Specification

Please replace paragraph [0035] with the following amended paragraph:

[0035] FIGS. 8(a)-(b) illustrate experimental results using Poincare charts to ~~in~~ compare conventional polarization control techniques with polarization control methods in accordance with aspects of the present invention.

Please replace paragraph [0037] with the following amended paragraph:

[0037] For the first LC effect described above, namely a lack of absolute response by dithering a waveplate, it is desirable to increase the dither step-size of the waveplate when the response (or feedback signal) becomes smaller. In accordance with aspects of the present invention, an adaptive dither algorithm is used because the dither step-size is adjusted according to the response of the waveplate. However, it is difficult to estimate the optimal step-size. In an overcompensation situation, an unnecessarily large dither step-size allows the output SOP to deviate too far away from the desired position. On the other hand, insufficient dither step-size operates too slowly to recover the response. The waveplate cannot be moved far enough away from the dead spot by an insufficient dither step-size.

Please replace paragraph [0040] with the following amended paragraph:

[0040] Assuming the goal is to try and minimize the feedback signal, the controller preferably rotates the waveplate continuously if the feedback signal decreases monotonically, and switches to the next waveplate if the feedback signal increases. This procedure is explained in more detail with regard to FIG. 4. After returning to a "bad" waveplate in a subsequent cycle, the process can more likely recover the response because other waveplates in the polarization controller have changed by large angles. Note that it is possible for a bad waveplate in one cycle to become a good waveplate in the next cycle.

Please replace paragraph [0045] with the following amended paragraph:

[0045] If the initial rotation direction of step 410 was clockwise, then the new rotation direction of step 424 is counterclockwise. Then in step 426-428, the waveplate is preferably dithered by rotating two steps in the new rotation direction. These two (2) steps may be of a different size than that selected in step 412, although they are both preferably the same size. After the rotation is performed in either step 422 or step 426, the index value is set to three (3) in step 428, and the process then returns to point A in step 403 of the flow diagram 400.